The Complete Concrete | 5dff54fe21be32ffa557fc7cca206c67

Foundations and Concrete Work | Concrete Semantics | Concrete Approach to Abstract Algebra | Complete Concrete | Masonry & Concrete Construction | Concrete Quarterly | Concrete Structures | Prestressed Concrete Bridges | The Complete Technology Book on Asbestos, Cement, Ceramics and Limestone | Concrete Countertops | Lightweight Aggregate Concrete | Black & Decker The Contractor's Guide to Quality Concrete Construction | Statistical Mechanics of Lattice Systems | Concrete Island | Durability of Concrete and Cement Composites | Concrete Construction | The Complete Concrete | Failure, Distress and Repair of Concrete Structures | The Complete Guide to Home Masonry | Lea's Chemistry of Cement and Concrete | Concrete and Sustainability | Early Reinforced Concrete | Use of Recycled Plastics in Eco-efficient Concrete | Handbook of Low Carbon Concrete | Working with Concrete | The Complete Guide to Masonry & Stonework | The World's Most Complete Concrete Technical Library | Reinforced and Prestressed Concrete Design to EC2 | Reinforced Concrete Construction for Small Projects | The Complete Concrete, Masonry, and Brick Handbook | The Complete Concrete | High Performance Concrete | Masonry and Concrete | Concrete Portable Handbook | Build and Repair with Concrete | Concrete Crafts | Corrosion of Steel in Concrete Structures | Concrete and Culture

The only all-inclusive, accessible reference for all aspects of building with masonry and concrete for residential purposes - ideal for residential builders, contractors, remodelers, and other professionals.

Part of the Complete Construction Series, this design-it, specify-it, and build-it source aids decision-making and construction performance by illustrating and explaining the function and behavior of each material. Provides problem-avoiding insights into installation, construction, storage, and cleaning techniques - filled with tables, graphs, and over 100 illustrations.

By using the Working Stress Design system described in the text combined with other information in this book, a builder with a good knowledge of basic arithmetic and a pocket calculator can determine the sizing and placement of steel rebar within small concrete buildings, such as earth-sheltered homes. The book covers the design, assembly, and formwork required by concrete beams, elevated slabs, walls, footings, short columns, mat foundations, and soffits. Many of these components are impossible to build using plain (unreinforced) concrete.

Understanding and recognizing failure mechanisms in concrete is a fundamental pre-requisite to determining the type of repair, or whether a repair is feasible. This title provides a review of concrete deterioration and damage, as well as looking at the problem of defects in concrete. It also discusses condition assessment and repair techniques. Part one discusses failure mechanisms in concrete and covers topics such as causes and mechanisms of deterioration in reinforced concrete, types of damage in concrete structures, types and causes of cracking and condition assessment of concrete structures. Part two reviews the repair of concrete structures with coverage of themes such as standards and guidelines for repairing concrete structures, methods of crack repair, repair materials, bonded concrete overlays, repairing and retrofitting concrete structures with fiber-reinforced polymers, patching deteriorated concrete structures and durability of repaired concrete. With its distinguished editor and international team of contributors, Failure and repair of concrete structures is a standard reference for civil engineers, architects and anyone working in the construction sector, as well as those concerned with ensuring the safety of concrete structures.

Provides a review of concrete deterioration and damage. Discusses condition assessment and repair techniques, standards and guidelines.

Prestressed concrete decks are commonly used for bridges with spans between 25m and 450m and provide economic, durable and aesthetic solutions in most situations where bridges are needed. Concrete remains the most common material for bridge construction around the world, and prestressed concrete is frequently the material of choice. Extensively illustrated throughout, this invaluable book brings together all aspects of designing prestressed concrete bridge decks into one comprehensive volume. The book clearly explains the principles behind both the design and construction of prestressed concrete bridges, illustrating the interaction between the two. It covers
all the different types of deck arrangement and the construction techniques used, ranging from in-situ slabs and precast beams; segmental construction and launched bridges; and cable-stayed structures. Included throughout the book are many examples of the different types of prestressed concrete decks used, with the design aspects of each discussed along with the general analysis and design process. Detailed descriptions of the prestressing components and systems used are also included. Prestressed Concrete Bridges is an essential reference book for both the experienced engineer and graduate who want to learn more about the subject.

This book reinvents the countertop with a single material: concrete. Concrete Countertops is an essential book for architects, homeowners and contractors who want to learn how to design, form, mix, pour, color, trowel, inlay and finish decorative concrete countertops. Homeowners will be inspired by the 350 color photographs that bring this exciting medium to life.

Concrete is an integral part of twenty-first century structural engineering, and an understanding of how to analyze and design concrete structures is a vital part of training as a structural engineer. With Eurocode legislation increasingly replacing British Standards, it’s also important to know how this affects the way you can work with concrete. Newly revised to Eurocode 2, this second edition retains the original’s emphasis on qualitative understanding of the overall behaviour of concrete structures. Now expanded, with a new chapter dedicated to case studies, worked examples, and exercise examples, it is an even more comprehensive guide to conceptual design, analysis, and detailed design of concrete structures. The book provides civil and structural engineering students with complete coverage of the analysis and design of reinforced and prestressed concrete structures. Great emphasis is placed on developing a qualitative understanding of the overall behaviour of structures.

Corrosion of reinforcing steel is now recognized as the major cause of degradation of concrete structures in many parts of the world. Despite this, infrastructure expenditure is being unreasonably decreased by sequestration and the incredible shrinking discretionary budget. All components of our infrastructure including highways, airports, water supply, waste treatment, energy supply, and power generation require significant investment and are subjected to degradation by corrosion, which significantly reduces the service life, reliability, functionality of structures and equipment, and safety. Corrosion of Steel in Concrete Structures provides a comprehensive review of the subject, in addition to recent advances in research and technological developments, from reinforcing materials to measurement techniques and modelling. This book contains not only all the important aspects in the field of corrosion of steel reinforced concrete but also discusses new topics and future trends. Part One of the book tackles theoretical concepts of corrosion of steel in concrete structures. The second part moves on to analyse the variety of reinforcing materials and concrete, including stainless steel and galvanized steel. Part Three covers measurements and evaluations, such as electrochemical techniques and acoustic emission. Part Four reviews protection and maintenance methods, whilst the final section analyses modelling, latest developments and future trends in the field. The book is essential reading for researchers, practitioners and engineers who are involved in materials characterisation and corrosion of steel in concrete structures. Provides comprehensive coverage on a broad range of topics related to the corrosion of steel bars in concrete Discusses the latest measuring methods and advanced modeling techniques Reviews the range of reinforcing materials and types of concrete

In spite of the increasing use and demand for lightweight aggregate concrete (LWAC), there is still a lack of adequate explanations to understand the mechanisms responsible for the strength and durability properties of LWAC. This book is written to give an overall picture of LWAC, from the historical background, aggregate production, proportioning and production of concrete, to applications in structures. Physical properties and chemical durability are described in detail. The physical properties include density, strength, shrinkage, and elasticity. Chemical durability includes resistance to acids, chloride ingress, carbonation, and freeze-thaw resistance. Fire resistance is also included, which is seldom considered, but is a very important aspect of the safety of the structure. Microstructure development and its relation to the durability properties of LWAC generally are not highlighted in the literature. The development of bonds, the microstructure with different binder systems, and different types of lightweight aggregates are explained. They show how lightweight aggregate concrete differs from normal weight concrete. The chapters on chloride ingress and freeze-thaw resistance are detailed because of the use of LWAC in offshore construction. The
economical aspects of using LWAC are also reviewed. Emphasis is placed on the fact that although the cost of LWAC is high, the total cost of construction has to be considered, including the cost of transport, reinforcement, etc. When these are considered then LWAC becomes cheaper and attractive. The life cycle cost of the concrete is another consideration for calculating long-term savings on maintenance costs.

Whether or not, you are on the job site or back in the office, this book will help you to avoid mistakes, code violations, and wasted time and money. The book’s four part treatment begins with constituent materials followed by self contained parts on Concrete Properties, Processes, and Concrete Repair and Rehabilitation. Designed to be an "all in one" reference, the author includes a wealth information for the most popular types of testing. This includes: Analysis of Fresh Concrete; Testing Machines; Accelerated Testing Methods; Analysis of Hardened Concrete and Mortar; Core Sampling and Testing; Assessment of Concrete Construction; Repair; Quality Concepts; Quality Control; Statistics; Standards, Specifications, and Codes of Practice. With this book in hand, construction engineers and even technicians find valuable information regarding Exposed Concrete Finishes, Repairing Concrete, Formwork, Precast Concrete, Concrete Roads, and Industrial Floors. Project managers and owners will find this reference a valuable guide to concrete both in terms of its applications in construction projects and the science and chemistry of concrete for its own sake. Fundamentals of Concrete Chemistry Handy at your figure tip calculations Tips for working with all types of concretes Covers Roads, floors, and finishes Principles of Precast, Reinforced and Prestressed Concrete

Concrete is by far the most common building material—accounting for twice the volume of all other such materials combined. With such a huge global economic impact, the industry has a correspondingly considerable responsibility to use it sustainably. Written by experts who pioneered research into environmental issues and concrete, Concrete and Sustainability examines the sustainability issues of the world’s main construction material and proposes attainable solutions. It provides a complete overview of the topic and tackles the complexity of the challenges from different angles. This book offers new data regarding the social and economic importance of concrete and proposes a discussion centered on a holistic approach in terms of resource availability, technical viability, economic feasibility, and environmental compatibility. The authors attribute a growing worldwide concern and understanding of sustainability issues, and an increased focus on climate change as the catalyst in this process. Instead of offering detailed technical advice or recommendations on sustainable issues, they provide examples showcasing sustainability efforts taking place in the concrete environment worldwide. The book includes examples and ideas for solutions from a large number of countries from across the globe. It presents a holistic and more complete overview of the emission and absorption topic, takes a look at the challenges from a combined old and new world viewing platform and offers an exploration of issues from a social and economic perspective. Concrete and Sustainability details the various rules and regulations that the industry is facing, discusses the various environmental challenges, and explores its impact. As emission, absorptions, and recycling have been the most central elements of discussion in the cement and concrete environment so far, these topics each receive their own chapters. This book also discusses other issues of concern within the various platforms in the industry, as well as future developments, and provides a comprehensive reference list.

Asbestos is the generic term for a group of naturally occurring fibrous minerals with high tensile strength, flexibility, and resistance to thermal, chemical and electrical conditions. Asbestos fibers are of high-tensile strength, flexible, heat and chemical resistance, and good frictional properties. Cement is the most essential raw material in any kind of construction activity. Ceramics also known as fire clay is an inorganic, non-metallic solid article, which is produced by the art or technique of heat and subsequent cooling. Limestone is a sedimentary rock, mainly composed of calcium carbonate (CaCO3). It is the principal source of crushed stone for construction, transportation, agriculture, and industrial uses. Emerging applications in commercial sectors such as asbestos, cement and ceramic are poised to fuel demand in the coming years. Growing demand for limestone in the production of cement as well as in several other chemicals that are used in the production of high-value every-day products offers significant opportunities for growth. Global Limestone consumption is projected to reach 5.7 billion tons and expected to grow at an average annual rate of 4-5% in coming years. Presently, cement production is 330 million tonnes and expected to double to reach almost 550 million tonnes in future. The major contents of the book are asbestos, monitoring and identification of air-borne asbestos, asbestos in industrial applications, asbestos –
cement products, non occupational asbestos emissions and exposures, cements, mortars and concrete, raw materials, additives and fuels for cement, processes of manufacturing of cement, cement based on natural and artificial pozzolanas, fast-setting cements, special portland cements, packing of cement, storages of cement, ceramics, lime & limestone, glass & glass ceramics etc. It describes the manufacturing processes and photographs of plant & machinery with supplier's contact details. It will be a standard reference book for professionals, entrepreneurs, those studying and researching in this important area and others interested in the field of these industries.

"This book is published on the occasion of the 25th anniversary of the Foundation for Constructivist, Concrete, and Conceptual Art, the supporting foundation of the Museum Haus Konstruktiv, Zurich. It presents for the first time, a comprehensive overview of the collection of the museum and furthermore documents the exhibition "complete concrete" presented at Haus Konstruktiv from August 27, 2010, to January 1, 2011."--Colophon.

Pouring concrete doesn’t have to be left to the professionals—decorate your home with concrete poured, mixed, and molded by your own two hands! Versatile, inexpensive, and easily casted, concrete is the perfect medium for crafters, tinkerers, and home improvers. Now, lifelong crafters and interior designers Susanna Zacke and Sania Hedengren reveal more than thirty of their favorite, no-fuss casting projects. Decorate your kitchen table or outdoor patio with: • Rhubarb leaf fruit bowls • Clustered candleholders • Birdbaths • Patterned pots • Flower vases • Angel figurines • And much more! Once you get started, you won’t want to stop making trinkets and ornate arrangements for friends, family, and each room in your house. Plus, crafting with concrete is a great way to get outside and enjoy a beautiful, sunny day. Featuring step-by-step photos, easy-to-follow directions, and Susanna and Sania’s expert tips, Concrete, the Perfect Hobby is the ultimate new guide to outdoor crafting. Pour out your creativity and discover the beautiful, practical items you can cast!

Here is the revised edition of this popular, practical manual with updated information on everything from on-site preplanning and layout through the construction of footings, foundations, walls, fireplaces, and chimneys. Plus, the book covers improved estimating techniques to help readers win more construction bids and pocket a healthy profit every time. The ideal reference for busy masonry contractors.

A self-contained, mathematical introduction to the driving ideas in equilibrium statistical mechanics, studying important models in detail.

Whilst most structures made using concrete and cement-based composites have not shown signs of premature degradation, there have been notable exceptions. In addition, there is increasing pressure for new structures to remain in serviceable condition for long periods with only minimal maintenance before being recycled. All these factors have highlighted the issues of what affects the durability of these materials in different circumstances and how material properties can be measured and improved. Durability of concrete and cement composites summarises key research on these important topics. After an introductory chapter, the book reviews the pore structure and chemistry of cement-based materials, providing the foundation for understanding the particular aspects of degradation which are discussed in the following chapters. These include dimensional stability and cracking processes, chemical and microbiological degradation of concrete, corrosion of reinforcing and prestressing steels, deterioration associated with certain aggregates, effects of frost and problems involving fibre-reinforced and polymer-cement composites. With its distinguished international team of contributors, Durability of concrete and cement composites is a standard reference for all those concerned with improving the service life of structures using these materials. Analyses a range of materials such as reinforced steel in concrete, pre-stressed concrete and cement composites Discusses key degradation phenomena such as cracking processes and the impact of cold weather conditions A standard reference for those concerned with improving the service life of structures using concrete and cement based composites

Use of Recycled Plastics in Eco-efficient Concrete looks at the processing of plastic waste, including techniques for separation, the production of plastic aggregates, the production of concrete with recycled plastic as an aggregate or binder, the fresh properties of concrete with plastic aggregates,
the shrinkage of concrete with plastic aggregates, the mechanical properties of concrete with plastic aggregates, toughness of concrete with plastic aggregates, modulus of elasticity of concrete with plastic aggregates, durability of concrete with plastic aggregates, concrete plastic waste powder with enhanced neutron radiation shielding, and more, thus making it a valuable reference for academics and industrial researchers. Describes the main types of recycled plastics that can be applied in concrete manufacturing. Presents, for the first time, state-of-the-art knowledge on the properties of conventional concrete with recycled plastics. Discusses the technological challenges for concrete manufacturers for mass production of recycled concrete from plastic waste.

A complete review of the fast-developing topic of high performance concrete (HPC) by one of the leading researchers in the field. It covers all aspects of HPC from materials, properties and technology, to construction and testing. The book will be valuable for all concrete technologists and construction engineers wishing to take advantage of the re

This volume traces the process by which reinforced concrete emerged during the 19th century as the successful building material of today. Early work on testing the strength of cements led into a period of experimental work by a number of engineers, notably in Britain, France and America, to devise successful systems of embedding iron in concrete in such a way that the two materials would act together to carry imposed loads. The papers take the story to the early years of the 20th century and provide a thorough review of the gradual evolution of ideas and the contributions of individuals to this technology.

A chilling novel about our modern world, from the author of Empire of the Sun and Crash.

This comprehensive concrete manual has the information you need, both the tried-and-tested methods and materials, and recent innovations. It covers styrofoam forming systems, fiber reinforcing adjuncts, and architectural innovations. Forming, one of the most important elements of concrete work, gets special attention. Every chapter provides detailed, step-by-step instructions for each task, with hundreds of photographs and drawings that show exactly how the work is done.

The success of a repair or rehabilitation project depends on the specific plans designed for it. Concrete Structures: Protection, Repair and Rehabilitation provides guidance on evaluating the condition of the concrete in a structure, relating the condition of the concrete to the underlying cause or causes of that condition, selecting an appropriate repair material and method for any deficiency found, and using the selected materials and methods to repair or rehabilitate the structure. Guidance is also provided for engineers focused on maintaining concrete and preparing concrete investigation reports for repair and rehabilitation projects. Considerations for certain specialized types of rehabilitation projects are also given. In addition, the author translates cryptic codes, theories, specifications and details into easy to understand language. Tip boxes are used to highlight key elements of the text as well as code considerations based on the International Code Council or International Building Codes. The book contains various worked out examples and equations. Case Studies will be included along with diagrams and schematics to provide visuals to the book. Deals primarily with evaluation and repair of concrete structures. Provides the reader with a Step by Step method for evaluation and repair of Structures. Covers all types of Concrete structures ranging from bridges to sidewalks. Handy tables outlining the properties of certain types of concrete and their uses.

Whether you’re pouring a concrete walkway or staking out the excavation for a basement foundation, doing the job right demands a thorough knowledge of concrete construction techniques. In Working with Concrete, veteran builder Rick Arnold explains everything from mix characteristics and formwork options to waterproofing details and repair procedures. You’ll benefit from Arnold’s years as a general contractor, framer, and foundation contractor as he offers time- and money-saving advice that comes from understanding the subject from all angles. Get the rock-solid results you’re after with this comprehensive guide to building with concrete. This book will enable you to: prepare a site for excavation; evaluate soil conditions; lay out footings and foundation walls; use site-made and manufactured forms; install proper reinforcement in footings, walls, and flat work; estimate and order ready-mix concrete; test and evaluate concrete quality before the pour; build walkways, patios, steps, and slabs from start to finish.
-- Includes instructions for building popular masonry projects, such as barbecues, patios and retaining walls. -- Step-by-step instructions accompanied by color photos.

Love all of your masonry and concrete projects--knowing that you did them yourself!--with help from our experts. No projects offer more aesthetic or financial satisfaction than DIY concrete and masonry projects. Homeowners can routinely save thousands of dollars in labor costs by buying and installing materials that are readily available. This updated 4th edition of Black & Decker The Complete Guide to Concrete & Masonry includes traditional techniques for laying concrete, adapted to make them easy for ordinary homeowners, and also features completely modern materials and techniques, such as tumbled concrete pavers, acid-etching for colored concrete slabs, and important green paving options, such as rain-garden arroyos and permeable pavers. Several cutting-edge projects, like polished concrete countertops and stamped concrete walkways, are included in this book. An exposed aggregate patio, a reinforced concrete block wall, and the latest tools and materials for handling new products are featured. A completely new section on foundation walls shows you all the options, including the latest structural insulated panels, that are now more DIY friendly than ever. No homeowner or do-it-yourselfer will want to miss this chance to master the best methods to create lasting beauty around the house.

Brief, clear, and well written, this introductory treatment bridges the gap between traditional and modern algebra. Includes exercises with complete solutions. The only prerequisite is high school-level algebra. 1959 edition.

Accompanied by natural stone projects for both the home and landscape, this revised edition furnishes the latest information on decorative concrete finishes, new tools and building materials, and much more. Original.

Part I of this book is a practical introduction to working with the Isabelle proof assistant. It teaches you how to write functional programs and inductive definitions and how to prove properties about them in Isabelle’s structured proof language. Part II is an introduction to the semantics of imperative languages with an emphasis on applications like compilers and program analysers. The distinguishing feature is that all the mathematics has been formalised in Isabelle and much of it is executable. Part I focuses on the details of proofs in Isabelle; Part II can be read even without familiarity with Isabelle’s proof language, all proofs are described in detail but informally. The book teaches the reader the art of precise logical reasoning and the practical use of a proof assistant as a surgical tool for formal proofs about computer science artefacts. In this sense it represents a formal approach to computer science, not just semantics. The Isabelle formalisation, including the proofs and accompanying slides, are freely available online, and the book is suitable for graduate students, advanced undergraduate students, and researchers in theoretical computer science and logic.

Concrete has been used in arches, vaults, and domes dating as far back as the Roman Empire. Today, it is everywhere—in our roads, bridges, sidewalks, walls, and architecture. For each person on the planet, nearly three tons of concrete are produced every year. Used almost universally in modern construction, concrete has become a polarizing material that provokes intense loathing in some and fervent passion in others. Focusing on concrete’s effects on culture rather than its technical properties, Concrete and Culture examines the ways concrete has changed our understanding of nature, of time, and even of material. Adrian Forty concentrates not only on architects’ responses to concrete, but also takes into account the role concrete has played in politics, literature, cinema, labor-relations, and arguments about sustainability. Covering Europe, North and South America, and the Far East, Forty examines the degree that concrete has been responsible for modernist uniformity and the debates engendered by it. The first book to reflect on the global consequences of concrete, Concrete and Culture offers a new way to look at our environment over the past century.

Lea's Chemistry of Cement and Concrete deals with the chemical and physical properties of cements and concretes and their relation to the practical problems that arise in manufacture and use. As such it is addressed not only to the chemist and those concerned with the science and technology of silicate materials, but also to those interested in the use of concrete in building and civil engineering construction. Much attention is given to the suitability of materials, to the conditions under which concrete can excel and those where it may deteriorate and to the
precautionary or remedial measures that can be adopted. First published in 1935, this is the fourth edition and the first to appear since the death of Sir Frederick Lea, the original author. Over the life of the first three editions, this book has become the authority on its subject. The fourth edition is edited by Professor Peter C. Hewlett, Director of the British Board of Agreement and visiting Industrial Professor in the Department of Civil Engineering at the University of Dundee. Professor Hewlett has brought together a distinguished body of international contributors to produce an edition which is a worthy successor to the previous editions.

Handbook of Low Carbon Concrete brings together the latest breakthroughs in the design, production, and application of low carbon concrete. In this handbook, the editors and contributors have paid extra attention to the emissions generated by coarse aggregates, emissions due to fine aggregates, and emissions due to cement, fly ash, GGBFS, and admixtures. In addition, the book provides expert coverage on emissions due to concrete batching, transport and placement, and emissions generated by typical commercially produced concretes. Includes the tools and methods for reducing the emissions of greenhouse gases Explores technologies, such as carbon capture, storage, and substitute cements Provides essential data that helps determine the unique factors involved in designing large, new green cement plants

Describes the methods, materials, tools, and equipment used in concrete, masonry, or brick work and shows how to do numerous home improvement and repair jobs using both simple and sophisticated techniques

A political speech writer who finds himself trapped in an alien body made of living stone, Concrete finds that his new body has abilities that he could never have imagined.

This book provides tips and advice from contractors and builders from all over the country to provide the best advice on formwork, foundations, waterproofing, reinforcement and related topics.